Wayne State University, 7th year in QuarkNet

Mentors: Profs. Robert Harr and Paul Karchin

In 2012, the WSU QuarkNet center ran a Masterclass, and a summer research program. The Masterclass was held on Saturday, March 10, and had 3 teachers and about 20 students in attendance. The students received an introduction to particle physics and analyzed CMS data. The day was capped off with a videoconference where their results were discussed.

The High School Student Summer Research Program ran over 6 weeks from June 22 to August 10, 2012. The program was organized as 3 sessions, each with 4 students and lasting for 2 weeks. This enables us to select 12 students from a wide range of backgrounds for the program. We had about 80 applicants for these 12 positions, more than in the past, and indicating a growing awareness and interest in the program. The sessions were organized around projects with the cosmic ray detectors. About half the day was spent working with the CRDs and the other half of the day was spent learning the basics of particle physics, how to perform an analysis, and how to work with e-Lab. Presentations by a number of Wayne State faculty introduced the students to research in general, and particle physics in particular.

Figure 1: Students from the third session (four in center holding scintillator paddles) with teachers Scott Brunner (left) and Mike Niedballa (right).

At the end of each 2-week session, the students gave a presentation of what they had learned and the results of their experiment. Profs. Harr and Karchin provided

feedback on the presentation and the experimental results. The presentations and other material from the sessions are available at http://hep.physics.wayne.edu/web/quarknet/ .

On May 19, 2012, Prof. Harr gave a presentation on the status of the search for the Higgs Boson to a meeting of the Detroit Metro Area Physics Teachers (DMAPT). The presentation was well received but, more importantly, we learned that this is a rather unique group that fills many of the roles intended for associate teachers and meetings held with them. The DMAPT meets about once a month during the school year. At these meetings invited guests talk about physics and the teaching of physics, and the teachers discuss methods, techniques, demonstrations and experiments that they have worked on. This has led to ideas to try to leverage connections with the DMAPT to interact with teachers rather than trying to establish a separate group of associate teachers. Scott Brunner, one of the QuarkNet lead teachers, will become president of the DMAPT this year.